

**Region 2 Enforcement & Compliance Assurance Division  
Air Compliance Branch**

**Inspection Report**

**Inspection Date(s):** January 11, 2023

**Facility Name:** Erie County Sewerage Division No. 3 Southtowns Advanced Wastewater Treatment Facility

**Facility Address:** 90 W FERRY ST, BUFFALO, NY 14213-7999

**ICIS-Air/RMP ID #:** NY0000009140200154

**Federal Facility:** No

**NCI:** None

**Facility size:** Major

**Planned Activity:** FCE

**State Referral:** No

**NAICS code:** 221310 Water Treatment Plant

**EPA Lead Inspector:** Joseph Cardile 212-637-4054

**EPA Asst. Inspector:** Phil Ritz 212-637-4064  
Steve Rapp, ERG Inspector, 339-364-4264

**Facility Contact:** Joseph Fiegl, Deputy Commissioner, Erie County Dept. of Environment & Planning, Division of Sewerage Management

**Information Sources Consulted:**

- ☐ ICIS-Air (Integrated Compliance Information System)
- ☒ ECHO (Enforcement and Compliance History Online)
- ☐ TRI (Toxic Release Inventory)
- ☒ CEDRI
- ☐ Dun & Bradstreet
- ☐ Envirofacts
- ☒ State Contact
- ☐ State Website/Database
- ☒ File Review
- ☒ Google/Bing/Aerial Photographs/Maps/Diagrams
- ☐ Facility Website
- ☒ Previous Inspection Reports
- ☐ Information Collection Request
- ☒ Other

## Facility Information

### 1. Plant Description:



Erie County operates the Southtowns Water Resource Recovery Facility (“Southtowns” or “the facility”) that can treat up to 18.5 million gallons of wastewater per day (MGD). Sewage sludge generated by the wastewater treatment processes at this POTW is disposed of through incineration in two identical fluidized bed incinerators (FBIs) that use #2 fuel oil as an auxiliary fuel source. The FBIs were built in 1980 and were supplied by Dorr-Oliver. The FBIs are sewage sludge incinerators (SSIs) with a hot wind box design with combustion air preheaters. Exhaust from each FBI is controlled by an associated air pollution control system consisting of a multistage wet scrubber and a mercury control system. The wet scrubber system is interlocked with the associated FBI to prevent combustion of sewage sludge without control of emissions. Ash collected from each wet scrubber system is pumped to an ash separation tank. The water removed from the ash is sent to the plant headworks. The dewatered ash is pumped to a holding lagoon to dry and then disposed of at a landfill.

Erie County has operated the FBIs and associated control equipment in accordance with Air State Facility Permit No. 9-1448-00012/00011. However, new requirements under 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS), Subpart M - Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units (Subpart M) took effect March 21, 2016, and the operation of FBIs requires a permit under Title V (TV) of the Clean Air Act. Erie County submitted its application for a TV permit in compliance with the timeframe specified in Subpart M and 6NYCRR 219-9.4. The contaminants regulated under Subpart M are cadmium (Cd), lead (Pb), mercury (Hg), sulfur dioxide (SO<sub>2</sub>), oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), dioxan/furans (d/f), hydrogen chloride (HCl) and particulates (PM).

Emissions from Emission Unit (EU) 0-INCIN contains two fluidized bed sewage sludge incinerators, identified as Emission Source (ES) XINCI and ES YINCI. Emissions generated by ES XINCI and ES YINCI are controlled by a wet scrubber system consisting of a venturi scrubber and impingement plate scrubber in series, identified as Emission Source Control (ESC) XSCRB and ESC XIMPL and ESC YSCRB and YIMPL, respectively. The mercury control system, located downstream from each wet scrubber system, consists of a mercury scrubbing stage, a mist eliminator (ME) stage and spray lances. The mercury scrubbing stage contains a minimum of four modules, in

series, containing pleated sorbent polymer composite (SPC) material to maximize contact with the gas stream. Mercury is permanently removed from the gas stream through chemisorption, a chemical reaction between the mercury and the SPC media. The ME stage, installed after the mercury scrubbing stage, is comprised of a mesh mist eliminator pad to remove any remaining entrained water droplets contained in the gas stream exiting the SPC modules. The spray lances are used to intermittently irrigate and wash the ME and to clean the SPC modules. The mercury control systems are identified as ESC XMERC and ESC YMERC. Exhaust from ESC XMERC and ESC YMERC exit to the atmosphere through emission point (EP) XSTAK and EP YSTAK, respectively.

Southtowns operates four reciprocating internal combustion engines (RICE) to generate emergency power.

- Two diesel fueled RICE, installed in 1979, are used to generate power for the facility
- One natural gas fired RICE, installed in 2000, is used to power the effluent turbine pumps only. These RICE are subject to the requirements of 40 CFR 63, Subpart ZZZZ for emergency engines.
- One diesel RICE is used to power the influent submersible pump station and is subject to the requirement of 40 CFR 60, Subpart IIII for emergency engines. The facility is responsible for complying with all applicable requirements specified under these regulations.

Southtowns operates twelve small combustion installations (maximum heat input < 10 million British thermal units per hour (MMBtu/hr.) that are exempt from permitting in accordance with 6NYCRR201-3.2.

## 2. Compliance History:

According to EPA's Enforcement and Compliance History Online (ECHO) database, the state has conducted four (4) partial compliance evaluations (PCEs) which were stack test observations at the facility since 2018. ECHO indicates that there have been no formal or informal enforcement actions at the facility over the past 5 years.

Compliance Monitoring History

Statute	Source ID	System	Activity Type	Compliance Monitoring Type	Lead Agency	Date
CAA	NY0000009144800012	ICIS-Air	Inspection/Evaluation	PCE Stack Test	State	03/04/2020
CAA	NY0000009144800012	ICIS-Air	Inspection/Evaluation	PCE Stack Test	State	02/19/2020
CAA	NY0000009144800012	ICIS-Air	Inspection/Evaluation	PCE Stack Test	State	02/27/2019
CAA	NY0000009144800012	ICIS-Air	Inspection/Evaluation	FCE On-Site	EPA	05/03/2018
CAA	NY0000009144800012	ICIS-Air	Inspection/Evaluation	PCE Stack Test	State	02/27/2018

# Inspection Summary

## A. Entry and Opening Conference

### 1. Entry

The representatives from the U.S. Environmental Protection Agency (EPA), Joseph Cardile, and Phillip Ritz, and Steve Rapp from Eastern Research Group (ERG), arrived at the Southtowns facility at approximately 9:00 am. Shortly after, the representatives from the New York State Department of Environmental Conservation (NYSDEC), Marcia Ladiana and Ethan Bennett, arrived. The NYSDEC and EPA representatives (the inspectors) were met at the administration building by Joseph Fiegl, Deputy Commissioner, Erie County Department of Environment & Planning, Division of Sewerage Management; Mary Plesh, Senior Sanitary Engineer, Erie County Department of Environment & Planning, Division of Sewerage Management; Kevin Kaminski, Assistant Chief Treatment Plant Supervisor, Department of Environment & Planning, Division of Sewerage Management; Joseph McDonald, Chief Operator, Erie County Department of Environment & Planning, Division of Sewerage Management; Carl Horn; Damon Delmont; and Patricia D'Agostino, Ramboll (the facility representatives). The inspectors presented their identification credentials and provided an overview and scope of the inspection, noting a particular focus on the requirements of Subpart Mmmm.

### 2. Background

The facility representatives provided an overview of the wastewater treatment and biosolids (i.e., sludge) processing and incineration processes at Southtowns. The SSIs began operation in 1980 and have a maximum feed rate of 782 dry tons per hour (dtph). The facility has no primary wastewater treatment and the biosolids go from gravity thickeners at 2- 3% solids to filter presses which reduce the water content of the sludge to a “cake” with 20 – 24% solids. Facility staff sample the sludge twice per shift to determine solids content by dry balance and send samples to their lab three times per week. The facility does not have equipment for receiving solids from outside parties.

### 3. Technical Discussion

The EPA inspectors asked a series of questions related to the sewage sludge incineration processes at the facility. The following are key points from the discussion.

#### *Sludge Incineration Process*

The facility representatives described the sludge incineration process. The dewatered sludge goes from the filter presses to the screw feeder to the Schwing pumps to the fluidized bed, where the material enters the center to bottom third of the bed. The FBIs currently use fuel oil as an auxiliary fuel but are working with the NYSDEC to allow them to use natural gas as an alternative. The exhaust gases go from the combustion zone which operates between 1,300 – 1,400 degrees Fahrenheit (°F), to the freeboard zone, which operates at 1,540 – 1,600 °F, via

ductwork to a heat exchanger to a venturi scrubber to a plate scrubber, through the EnviroCare Hg control system, and out through the stack. The representatives explained that the system does not use a quench prior to the venturi scrubber. The oxygen (O<sub>2</sub>) and total hydrocarbon (THC) continuous emissions monitoring systems (CEMS) are located in the stack. They further explained that the FBIs do not have a pollution control bypass stack and noted that the FBIs are interlocked to automatically shut down if the freeboard temperature reaches 1,640 °F. The FBIs are typically operated one at a time, but both can be run as needed. Generally, the total annual operation is equivalent to running each unit approximately 75% of the year. Startup of the units from cold takes 3 – 4 days, whereas a warm start from idle takes approximately 30 – 60 minutes.

The inspectors asked if any changes were made to the facility since began operating in 1980. The facility representatives explained that there had been several changes to the SSI units, including, but not limited to a change from belt conveyors to screw feeders, installation of polymer addition, modifications to sludge hoppers, replacement of refractory, reroofing, changes to ductwork, and changes to the Hg control system to improve performance, such as changing the positions of the mist eliminators and spray lances. They also noted that since 2017, they use caustic injection to control acid gases.

### ***Final Control and Site-Specific Monitoring Plans***

The inspectors asked to see a copy of the facility's control plan which is required by the regulation: (6CRR-NY219-9.3, Subpart Mmmm section 60.5110). The facility representatives did not believe that a control plan was ever developed. The inspectors explained that a control plan is needed to describe how each of the nine pollutants regulated under Subpart Mmmm are controlled and asked how the facility was controlling CO, d/f, and NO<sub>x</sub>. The inspectors explained that the final control plan (FCP) is needed for developing an approvable site-specific monitoring plan (SSMP) under Subpart Mmmm (section 60.5200). They explained that for Hg, d/f, and NO<sub>x</sub>, section 60.5175 of Subpart Mmmm requires a petition to EPA if an air pollution control device, other than a wet scrubber, fabric filter, electrostatic precipitator, activated carbon injection, or afterburner, or limiting emissions in some other manner (e.g., materials balance), is used to comply with the emission limits in section 60.5165 and Table 2. Also, an approved petition is necessary prior to developing a SSMP. The inspectors noted that it appears that Southtowns had not yet submitted such a petition to EPA. Further, based on review of reports submitted to NYSDEC since 2016 by Erie County concerning the SSIs, it appears that the facility has not set operating parameter limits for NO<sub>x</sub> and d/f during the stack tests as required by section 60.5190, or complied with the continuous compliance requirements in section 60.5210 of Subpart Mmmm. They noted that for CO, the FCP and SSMP need to provide details regarding how the facility controls and monitors associated parameters but may not need to include it in the section 60.5175 petition if relying on minimum temperature of combustion, which is already required by Subpart Mmmm. Similarly for NO<sub>x</sub>, they noted a petition may not be needed depending on how it is controlled at a given facility.

The inspectors noted that Subpart M MMM (section 60.5190(b) and (c)) requires SSIs to monitor pressure drop and flow for “each scrubber.” They noted that the current SSMP only discusses monitoring scrubber differential pressure from before and after the “scrubbing system.” The facility representatives explained that although the facility utilizes separate venturi and tray scrubbers, the venturi has a fixed position throat and therefore pressure drop monitoring is not necessary. Additionally, they explained that the caustic is added at the venturi scrubber for pH adjustment and therefore only inlet flow to the venturi is needed to ensure continuous compliance with the acid gas limits and inlet flow to the tray scrubber and overall pressure drop for PM and metals.

### ***Ash Handling Monitoring Plan***

The inspectors asked the facility representatives to describe the ash handling process at the facility. The inspectors noted that the current SSMP did not fully describe the steps Erie County used to ensure that the ash in the lagoon remained wet, e.g., along the edge of the lagoon or when the lagoon is drained for ash removal. The facility representatives explained that Erie County had recently begun using large textile bags into which the wet ash was pumped within the existing sludge lagoon. The inspectors noted that such a change should be described and submitted to NYSDEC as a revision to the ash handling monitoring plan.

### ***Emissions Testing***

Based on a review of Southtown’s test reports, the inspectors asked how Erie County determined the maximum capacity of sludge feed to the FBIs. They noted that the working copy of the Clean Air Act Title V permit indicated a design capacity of 10.33 dry tons per day (dtpd), which would be equivalent to 861 dry pounds per hour (dpph). They noted that Subpart M MMM (section 60.5220(a)(11)) requires tests to be conducted at 85% (or greater) of the maximum capacity. However, sludge feed rates during testing were reported as ranging from 829 (96% of capacity) to 1,041 dpph (121% of capacity) at XINCI and 822 (95%) to 1,116 dpph (130%) for YINCI. The facility representatives explained that the capacity varies by sludge quality so they used the design capacity, although it may not represent the true capacity of the FBIs depending on the solids content of the sludge. Therefore, they set the capacity for the year based on the feed rate achieved during annual emissions testing. They also noted that in the past, testing at too high a rate of sludge feed resulted in the parameter limit for pressure drop across the scrubbers being set higher than was normally necessary during typical operation.

The inspectors asked if Erie County had submitted its test reports to EPA through its “Compliance and Emissions Data Reporting Interface” (CEDRI), specifically the electronic reporting tool (ERT) accessed through EPA’s central data exchange (CDX). The facility representatives said that reports were submitted through NYSDEC’s system but were unaware that they were required by Subpart M MMM (section 60.5235) to submit test reports to CEDRI. The inspectors noted that Erie County currently submits discharge monitoring reports (DMRs) under the Clean Water Act through CDX which should facilitate the process. The inspectors

reiterated that Erie County was required to submit the test reports from prior to 2023, as well as in the future, through the CEDRI/ERT system to ensure public transparency.

The inspectors asked if Erie County conducted performance evaluations of its parameter monitoring devices around the time of the emissions testing. The facility representatives explained that the performance testing of the monitors is currently performed approximately one month before the time of emissions testing.

The inspectors noted that because Erie County had not yet petitioned and received approval from EPA for the parameter monitoring used to control Hg, d/f, and NO<sub>x</sub>, the initial and annual tests did not fully meet the testing related requirements of Subpart M MMM (section 60.5190). They explained that, without a fully approved petition and SSMP for all nine pollutants regulated under Subpart M MMM, the emissions testing and parameter setting would be incomplete. The facility representatives stated that the next annual testing is scheduled for February 2023 and asked if they could get an extension on the deadline. The inspectors said that the regulations require the annual testing to occur between 11 and 13 months of the last test. If Southtowns requested an extension in writing, they would need to consider the situation before deciding whether such an extension could be allowed.

### ***Training***

The inspectors asked for a description of the incinerator operator training program at the facility. The facility representatives explained that training is done in-house and includes a discussion of the regulatory requirements as well as the operations of the incineration process. They said that the initial training has been done several times for new employees. They said that they conduct annual refresher training that includes a discussion of the reported deviations of the past year, as well as lessons learned. They currently have 235 certified operators, engineers, and maintenance staff.

### ***Mercury Control System***

The inspectors noted that several reports submitted by Erie County to NYSDEC from 2018 - 2022 described performance problems concerning the Hg control system and called into question the ability for the system to reduce Hg continuously below the emission limit in Subpart M MMM. The facility representatives explained that they have been working extensively for several years with the manufacturer, EnviroCare, to improve the system. They explained that the original system had three layers of Hg controlling material but now has a fourth. They added a skid-mounted air warming unit to control moisture content of the stack gas passing through the unit. However, they discovered that the drying of the gas increased the acidity and corrosion of the housing. They moved the demister further upstream, which appears to have helped with the corrosion. They discovered that the Hg module materials appear to have an oily film or “sooting” that was interfering with the material’s ability to reduce Hg as designed. They have submitted a request to NYSDEC to burn natural gas instead of fuel oil as an auxiliary fuel, which they believe

will help eliminate the oily film. They are currently rotating the modules in an effort to maintain control efficiency.

The inspectors asked if all the necessary changes had been made to the system and if the current SSMP reflected the current configuration. They noted that the required petition should reflect the current configuration and the operating parameters needed to ensure continuous compliance with the Hg emission limit.

### ***Engines***

The inspectors asked the facility representatives about the stationary reciprocating internal combustion engines located at Southtowns. The facility representatives explained that the facility has four stationary engines that are only used during emergency situations, including two 800 kilowatt (KW) Detroit Diesel engines, one 800 KW Kohler/Mitsubishi engine, and one 175 KW Caterpillar engine. They said that power aggregators frequently contact them to sell power on-demand to the grid but they have chosen not to participate in such programs. The inspectors noted that participation in such programs often results in additional regulatory requirements, such as catalytic control and monitoring systems. The inspectors asked if Erie County has considered adding sludge digestion to create biogas that could be used at the facility, including to generate electric power. The representatives said the County has considered it but determined it to be cost-prohibitive.

## **B. Facility Walk Through**

At approximately 11:45 am, the facility representatives led the inspectors on a walkthrough of the facility. The group went to the control room to see the Supervisory Control and Data Acquisition (SCADA) system, called “Wonderware.” The facility representatives showed the inspectors examples of numerous screens that operators use to control operations, including, but not limited to filter press X pressure levels (note that filter X serves YINCI), sludge feed rates of YINCI, YINCI incinerator bed temperatures, venturi and tray scrubber Y flow, pH of scrubber Y water, differential pressure of the scrubbers, pressure drop across the Hg control modules, temperature of the Hg control modules, ash storage levels, caustic storage tank level, ash thickener tank level, wet oxygen concentration, dry oxygen concentration, as well as trend data from numerous parameters. See photos 9320 – 9330 in Attachment 3.

At approximately 12:00 pm, the group took a break for lunch.

The inspectors returned to the conference room at approximately 1:30 pm.

At approximately 1:45 pm, the facility representatives led the inspectors to the incinerator control room where they reviewed a number of SCADA/Wonderware screens, including hourly sludge feed rates on several days in November 2022 and January 2023. See photos 9331 – 9334 in Attachment 3. The group then followed the sludge incineration process from the presses to



the FBIs and pollution control systems. The inspectors observed a noticeable amount of corrosion on the outside of the ductwork at and below the Hg control unit. See photos 9343, 9344, 9352, and 9354 in Attachment 3. The inspectors also noted that the ductwork from the top of YINCI to the heat exchanger had a section that was glowing orange. See photo 9359 in Attachment 3. The facility representatives explained that there was a short piece of the ductwork that was not lined with refractory material and therefore heated to a point of glowing but not failure. The inspectors also noted a visible amount of vibration of that ductwork both before and following the expansion joint.

The group proceeded to the ash handling system and outdoor ash lagoon. At the lagoon, the inspectors observed that the lagoon had been drained and that there were textile bags now being used to collect ash that was pumped from inside the building. The inspectors also noted that there were piles of ash in the drained lagoon that were no longer submerged under water. The facility representatives said that vegetation would grow over the piles and keep the material from blowing. See photos 9361 – 9363 in Attachment 3.

### C. Closing Conference

At approximately 2:45 pm, the inspectors and the facility representatives went back to the conference room for a closing conference. The inspectors explained that they would recap areas of concern as noted during the inspection and that they would be writing an inspection report within the next 60 days, which would be shared with the facility.

#### 1. Areas of Concern

The inspectors noted the following areas of concern that were discussed during the inspection, including, but not limited to:

- The lack of an approved FCP describing how each of the nine pollutants regulated by Subpart Mmmm are controlled at the facility.
- The lack of an approved petition regarding control of Hg, d/f, and NOx and associated compliance monitoring.
- The lack of an approvable SSMP due to the lack of an approved control plan and petition.
- The need for a comprehensive test for all pollutants after the control plan, petition, and revised SSMP have been approved for Hg, d/f, NOx, as well as CO.
- The lack of test reports submitted to CEDRI/ERT from 2016 to 2022.
- The lack of explanation in the ash handling fugitive emissions plan as to how monitoring is performed at the drained lagoon and with the use of textile bags.
- The lack of clarity regarding the maximum hourly sludge feed rate to the FBIs.

## **2. Request for documents**

The inspectors noted that prior to the next round of emissions testing, the facility needs to clarify how the actual hourly maximum sludge feed rate compares to the feed rates in the historical testing. The inspectors asked Erie County to provide, in a Microsoft Excel compatible spreadsheet format, the previous one year of hourly sludge feed rate data, both wet and dry (in gallons and dpph, respectively), as well as the sludge density.

The facility representatives emphasized that Erie County wanted to address the concerns raised and asked if testing could be delayed in order to address the agency's concerns. The inspectors reiterated that the regulations require the annual testing to occur between 11 and 13 months of the last test and, if Southtown requested an extension in writing, they would need to consider the situation before deciding whether such an extension could be allowed.

The inspectors thanked the facility representatives for their time and assistance in understanding the operation of the facility.

The inspectors departed the facility at approximately 4:00 pm.

**Attachment 1: Pre-inspection records review**

	<b>File name</b>	<b>Date</b>
<b>Permits</b>		
	Air <b>Title V Facility Permit</b> ID: 9-1448-00012/00013 - working copy	undated
	Air <b>State Facility Permit</b> ID: 9-1448-00012/00011	5/15/2006
<b>Plans</b>		
	Site Specific Monitoring Plan	1/17/2018
	Site Specific Monitoring Plan	Revised: March 19, 2021
<b>Alternative Monitoring petition</b>		
	Updated <b>petition for alternative monitoring</b> for EnviroCare's Hg modules	2/26/2021
<b>Deviation Reports</b>		
	Fluidized Bed Sewage Sludge Incinerator July - December 2018 <b>Deviation Report</b>	January 2019
	LETTER OF TRANSMITTAL COUNTY OF ERIE Jan 1- Jun 30, 2019 <b>Deviation Report</b>	7/1/2019
	Fluidized Bed Sewage Sludge Incinerator January - June 2019 <b>Deviation Report</b>	July 2019
	Fluidized Bed Sewage Sludge Incinerator January - June 2020 <b>Deviation Report</b>	July 2020
	Email From: Plesh, P.E., Mary L. <Mary.Plesh@erie.gov> To: Ladiana, Marcia (DEC) <marcia.ladiana@dec.ny.gov> Subject: Southtowns- <b>Deviation_Report-Jan-Jun2020</b>	7/29/2020
	LETTER OF TRANSMITTAL COUNTY OF ERIE July - December 2020 <b>Deviation Report</b>	1/29/2021
	Fluidized Bed Sewage Sludge Incinerator July - December 2020 <b>Deviation Report</b>	January 2021
	LETTER OF TRANSMITTAL COUNTY OF ERIE Jan-Jun 2021 <b>Deviation Report</b>	7/28/2021
	Fluidized Bed Sewage Sludge Incinerator January - June 2021 <b>Deviation Report</b>	July 2021
	LETTER OF TRANSMITTAL COUNTY OF ERIE for Fluidized Bed Sewage Sludge Incinerator July - December 2021 <b>Deviation Report</b>	1/26/2022
	Fluidized Bed Sewage Sludge Incinerator January - June 2022 <b>Deviation Report</b>	July 2022

<b>Annual Compliance Reports</b>		
	APPENDIX B <b>CEMS/CMS Reports</b>	3/20/2018
	Appendices D and E of 2018 <b>Annual Report</b>	undated
	<b>ANNUAL COMPLIANCE REPORT</b> Southtowns Advanced Wastewater Treatment Facility Fluidized Bed Sewage Sludge Incinerators	3/1/2019
	Appendices C AIR POLLUTION <b>CONTROL DEVICE INSPECTION REPORT</b> , APPENDIX D, MAINTENANCE ACTIVITIES, and APPENDIX E, OPERATING PARAMETER <b>DEVIATIONS</b> Jan - June 2019	undated
	FLUIDIZED BED SEWAGE SLUDGE INCINERATORS TITLE V /40CFR60 SUBPART Mmmm <b>ANNUAL COMPLIANCE REPORT</b>	2/28/2020
	FLUIDIZED BED SEWAGE SLUDGE INCINERATORS TITLE V /40CFR60 SUBPART Mmmm <b>ANNUAL COMPLIANCE REPORT</b>	2/26/2021
	FLUIDIZED BED SEWAGE SLUDGE INCINERATORS TITLE V /40CFR60 SUBPART Mmmm <b>ANNUAL COMPLIANCE REPORT</b>	2/25/2022
<b>Test Reports</b>		
	Emails between NYSDEC and Southtowns RE: Southtowns SSI Stack Test Procedure	1/26/2016
	Emission Test Protocol for Fluidized Bed Sewage Sludge Incineration System	January 2016
	Letter from NYSDEC to Southtowns re: test report deficiencies	7/28/2016
	Emission Test Report for Fluidized Bed Sewage Sludge Incineration System	August 2016
	Erie County's Response to NYSDEC Jul 18, 2016, letter re: test report deficiencies	8/8/2016
	NYSDEC approval of test report from 2016 tests	8/24/2017
	FLUIDIZED BED INCINERATOR X AND Y COMPLIANCE EMISSIONS <b>TEST PROTOCOL</b> ERIE COUNTY SOUTHTOWNS WASTEWATER TREATMENT FACILITY BUFFALO, NEW YORK	January 2018
	FLUIDIZED BED INCINERATOR X AND Y COMPLIANCE EMISSIONS <b>TEST REPORT</b> ERIE COUNTY SOUTHTOWNS ADVANCED WASTEWATER TREATMENT FACILITY BUFFALO, NY	6/8/2018
	<b>APPENDIX A:</b> FLUIDIZED BED INCINERATOR X AND Y COMPLIANCE EMISSIONS <b>TEST REPORT</b> ERIE COUNTY SOUTHTOWNS ADVANCED WASTEWATER TREATMENT FACILITY BUFFALO, NEW YORK	6/8/2018
	FLUIDIZED BED INCINERATORS X AND Y COMPLIANCE EMISSIONS <b>TEST PROTOCOL</b> R1 ERIE COUNTY SOUTHTOWNS WASTEWATER TREATMENT FACILITY BUFFALO, NEW YORK	2/26/2019

Erie County Southtowns Advanced Wastewater Treatment Facility 2018 Compliance Emissions <b>Test Report</b> METHOD 5/202, 26A, 29 RESULT	3/29/2019
Appendix B.11 USEPA Method 3A (for M23 and M26A) <b>Data Sheets</b> Y- Incinerator	2/27/2019
Appendix B.5 SW-846 <b>Test Method 0061 Data Sheets</b> X-Incinerator	2/26/2019
APPENDIX C <b>LABORATORY ANALYSIS DATA</b> : Appendix C.1 Method 5, 29, 26A and 0061 Analyses	3/20/2019
APPENDIX B CEMS/CMS REPORTS Quarterly <b>Quality Assurance Audit</b> Incinerators X & Y First Quarter 2019	4/8/2019
SOURCE <b>TEST REPORT 2019</b> EMISSIONS TEST ERIE COUNTY SOUTHTOWNS ADVANCED WASTEWATER TREATMENT FACILITY FLUIDIZED BED INCINERATORS X AND Y BUFFALO, NEW YORK	5/17/2019
APPENDIX D <b>QUALITY ASSURANCE/QUALITY CONTROL</b>	undated
Compliance <b>Test Plan</b> , Fluidized Bed Incinerators X and Y Erie County Southtowns – Advanced Wastewater Treatment Facility (AWTF)	1/31/2020
Email From: Plesh, P.E., Mary L. <Mary.Plesh@erie.gov> To: Ladiana, Marcia (DEC) <marcia.ladiana@dec.ny.gov>; 'William Cowell' <wcowell@montroseenv.com> RE: Final Erie County AWTF <b>2020 Test Plan</b>	3/3/2020
SOURCE <b>TEST REPORT 2020 COMPLIANCE TESTING</b> ERIE COUNTY SOUTHTOWNS ADVANCED WASTEWATER TREATMENT FACILITY BUFFALO, NEW YORK	5/7/2020
Air Emission <b>Test Protocol</b> Compliance Testing Erie County Southtowns Advanced Wastewater Treatment Facility Fluidized Bed Incinerators X and Y	2/4/2021
Results of the <b>Compliance Testing</b> Erie County Southtowns Advanced Wastewater Treatment Facility Fluidized Bed Incinerators X and Y	4/5/2021
<b>OPLs from 2021</b> Test Report	4/22/2021
Air Emission <b>Test Protocol</b> Compliance Testing Erie County Southtowns Advanced Wastewater Treatment Facility Fluidized Bed Incinerators X and Y Buffalo, New York	1/26/2022
Screen shot of testing monitor EPA Method 5-29 (PM metals) and 26A (HCl) at Southtowns	3/16/2022
APEX Compact Method 5 Kit online document	2022
Photos 1 - 4 of rooftop stack test sampling equipment	undated
Method5-TeflonUse.pdf	undated

<b>Hg Reports</b>		
	APPENDIX C Air Pollution <b>Control Device Inspection</b> Report; ECI <b>Mercury Testing Report</b> Erie County Southtowns Advanced Wastewater Treatment Facility	2/12/2018
	ECI <b>Mercury Testing Report</b> Erie County Southtowns Advanced Wastewater Treatment Facility Buffalo, NY EnviroCare Project #1111	7/19/2018
	ECI <b>Mercury Testing Report</b> Erie County Southtowns Advanced Wastewater Treatment Facility Buffalo, NY EnviroCare Project #1111	7/19/2018
	ECI <b>Mercury Testing Report</b> Erie County Southtowns Advanced Wastewater Treatment Facility Buffalo, NY EnviroCare Project #1111 REV (2)	11/1/2018
	ECI <b>Mercury Testing Report</b> Erie County Southtowns Advanced Wastewater Treatment Facility	2/25/2019
	ECI <b>Mercury Testing Report</b> Erie County Southtowns Advanced Wastewater Treatment Facility	7/12/2019
	Envirocare <b>Hg Control System testing</b>	10/22/2019
	Envirocare <b>Hg Control System testing</b>	10/22/2019
	ECI <b>Mercury Testing Report</b> Erie County Southtowns Advanced Wastewater Treatment Facility Buffalo, NY EnviroCare Project #1111	12/17/2019
	EnviroCare - Erie County SPC <b>Mercury Scrubber Recommendations</b>	December 2019
	Email From: Plesh, P.E., Mary L. To: Ladiana, Marcia (DEC) Subject: RE: Envirocare <b>short-term recommendations</b>	1/28/2020
	Cover Memo for EnviroCare <b>Service Visit Report 2/19/20</b>	5/11/2020
	ECI <b>Mercury Testing Report</b> Erie County Southtowns Advanced Wastewater Treatment Facility	5/11/2020
	ECI <b>Mercury Testing Report</b> Erie County Southtowns Advanced Wastewater Treatment Facility	9/25/2020
	ECI <b>Mercury Testing Report</b> Erie County Southtowns Advanced Wastewater Treatment Facility	12/30/2020
	ECI <b>Mercury Testing Report</b> Erie County Southtowns Advanced Wastewater Treatment Facility	3/23/2021
	Emails with Comments/Questions on Envirocare Report for Southtowns AWTF March 23, 2021 <b>service date</b> .	5/20/2021
	ECI <b>Mercury Testing Report</b> Erie County Southtowns Advanced Wastewater Treatment Facility	2/22/2022
	NYDE approval of retrofit of the No. 2 fuel oil burners in XINCI and ES YINCI with natural gas burners	10/17/2022

## Attachment 2: Digital photo log

### Erie County Southtowns Water Treatment Facility Sewage Sludge Incinerator Inspection January 11, 2023<sup>1</sup>

Photo Number	Description:
9320	SCADA screen of incinerator overview
9321	SCADA screen of sludge feed system
9322	SCADA screen of scrubber for INC Y
9323	SCADA screen of caustic tank
9324	SCADA screen of ash thickener
9325	SCADA screen of continuous parameter monitoring parameters
9326	SCADA screen of pH and pressure drop trends Jan. 11, 2023
9327	SCADA screen of temperature trends Jan. 11, 2023
9328	SCADA screen of feed rate trends Jan. 11, 2023
9329	SCADA screen of total hydrocarbon and oxygen continuous monitoring readings Jan. 3 - 11, 2023
9330	SCADA screen of scrubber pH, pressure, and bed levels Jan. 11, 2023
9331	SCADA Control room screen of oxygen and THC Jan. 11, 2023
9332	SCADA screen of feed rate YINCI Jan. 4 and 5, 2023
9333	SCADA screen of feed rate YINCI Nov. 1, 2022
9334	SCADA screen of pressure drop, O <sub>2</sub> , and THC Jan. 11, 2023
9335	Control room clipboard showing average percent solids of feed Jan. 11, 2023
9336	Top of XINCI
9337	Top of YINCI
9338	Sludge press X
9339	Sludge hopper X
9340	Front of YINCI
9341	Sludge hopper Y
9342	Front of XINCI
9343	Venturi scrubber (center right)
9344	Shell of impingement scrubber (center) and venturi scrubber (right)
9345	Ash tank
9346	Ash pump (side view from distance)
9347	Ash pump (front view)
9348	Thickener piping and tunnel
9349	Thickener pump
9350	Sludge thickening tank
9351	Panel outside Envirocare Hg control system
9352	Corrosion outside of Hg control system
9353	Stack exiting Hg control system to roof
9354	Duct from scrubber to Hg control system (with corrosion)
9355	Wash down lance for scrubber
9356	Air intakes
9357	Stack to roof

<sup>1</sup> Photos taken with Nikon Cool Pix #32013288

9358	Warm air skid for Hg control system
9359	Duct from top of INC Y to heat exchange housing (bottom right)
9360	Top of INC Y
9361	Ash storage bags in lagoon
9362	Ash storage piles in lagoon
9363	Ash storage lagoon
9364	Stacks on top of incinerator building
9365	Water treatment plant diagram



### Attachment 3: Digital photos

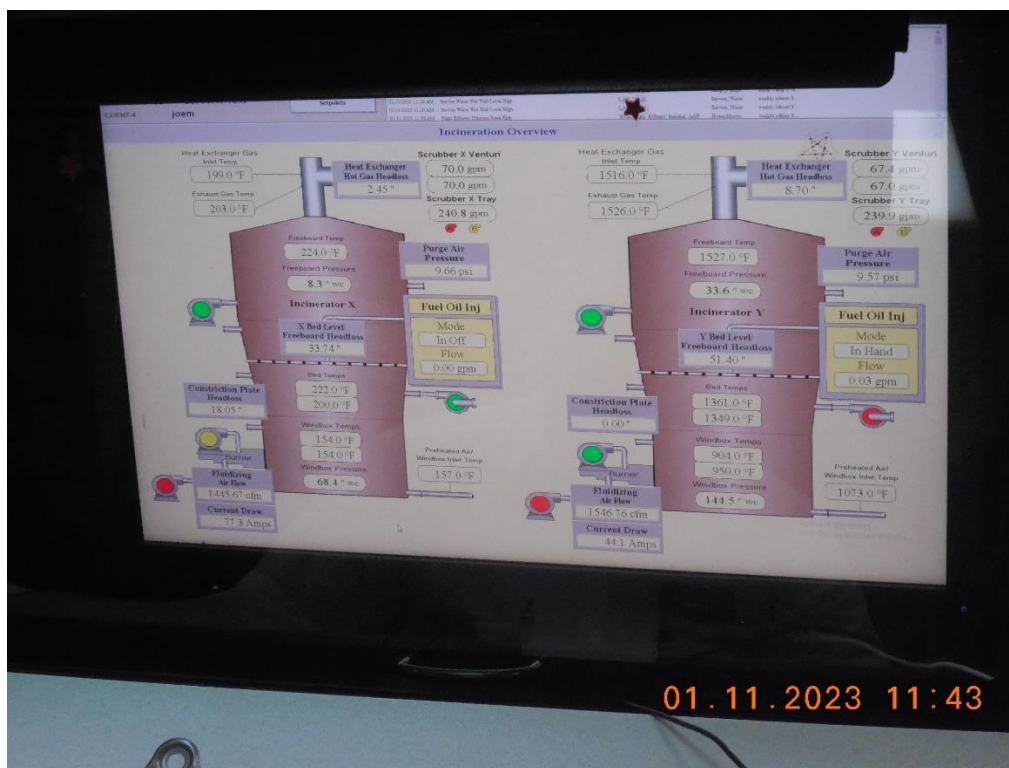


Photo 9320: SCADA screen of incinerator overview



Photo 9321: SCADA screen of sludge feed system

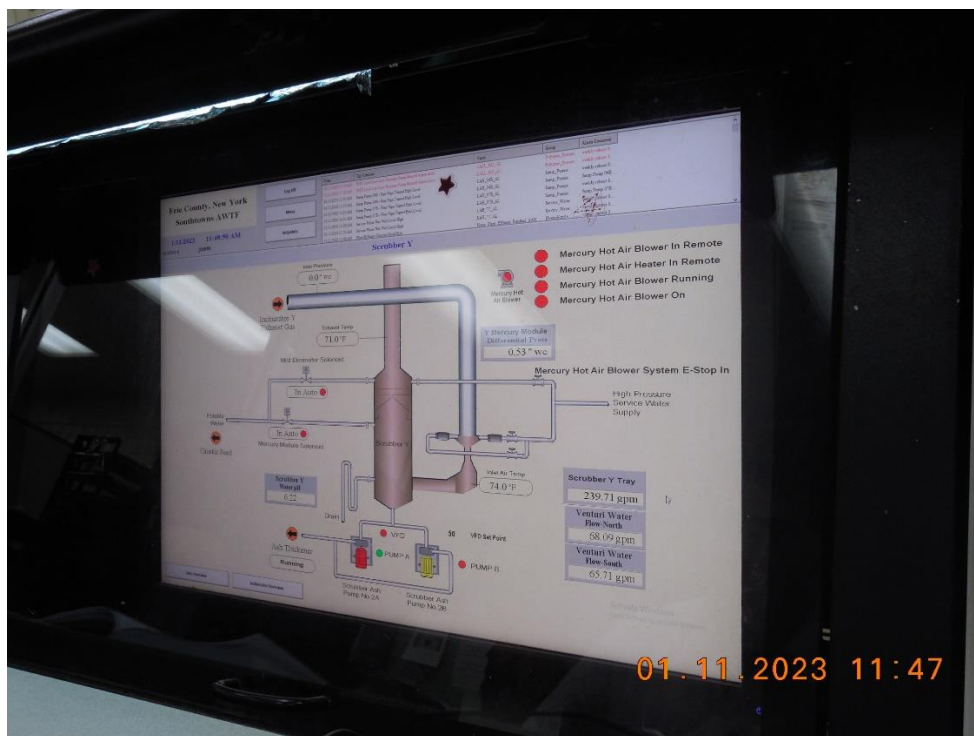


Photo 9322: SCADA screen of scrubber for INC Y

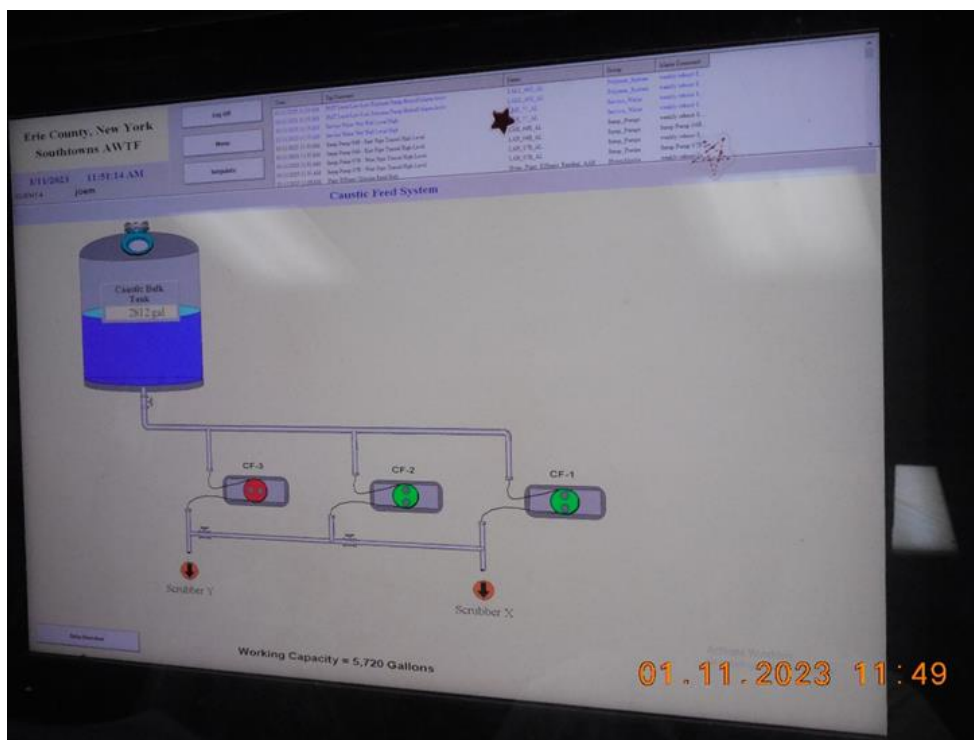


Photo 9323: SCADA screen of caustic tank

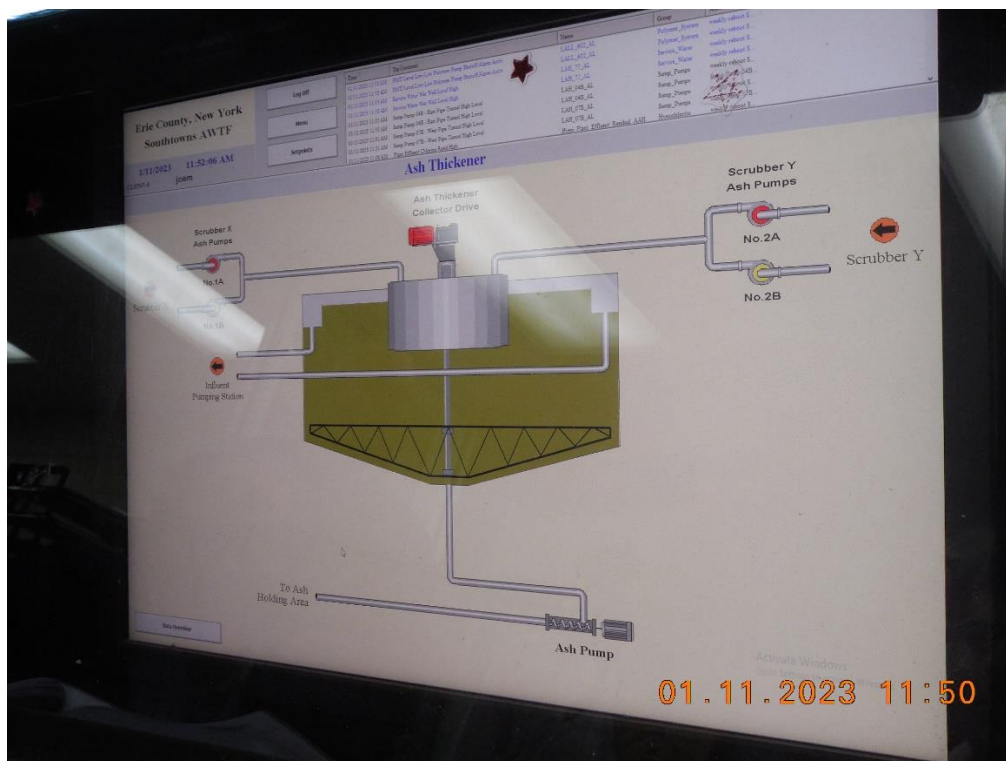


Photo 9324: SCADA screen of ash thickener



Photo 9325: SCADA screen of continuous parameter monitoring parameters



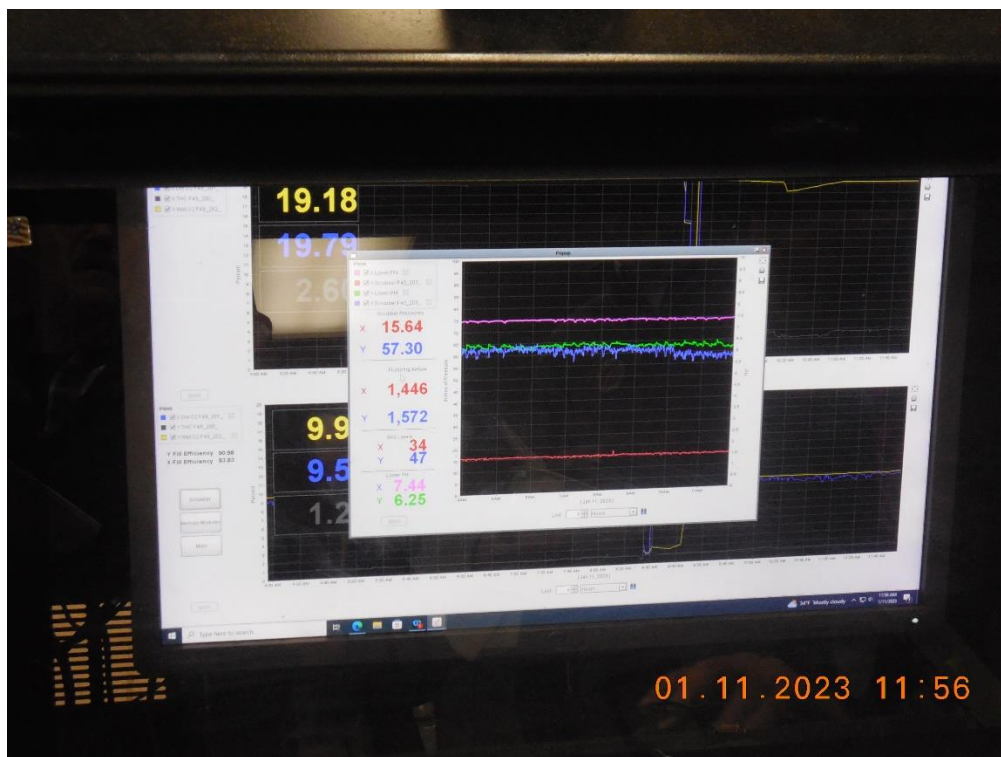


Photo 9326: SCADA screen of pH and pressure drop trends Jan. 11, 2023

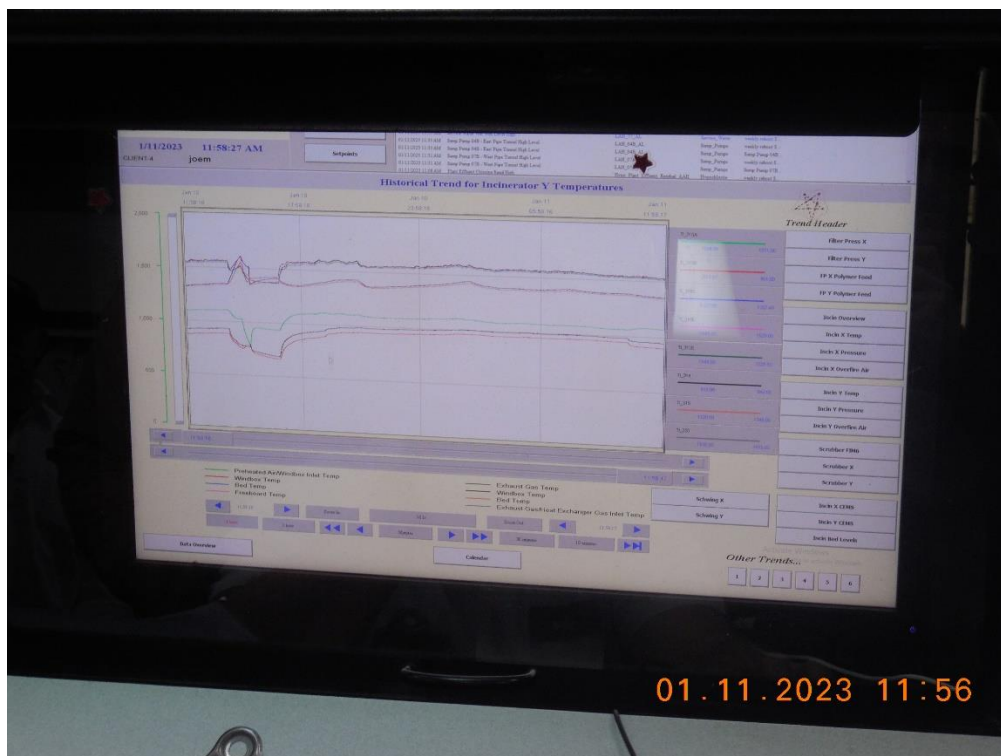


Photo 9327: SCADA screen of temperature trends Jan. 11, 2023

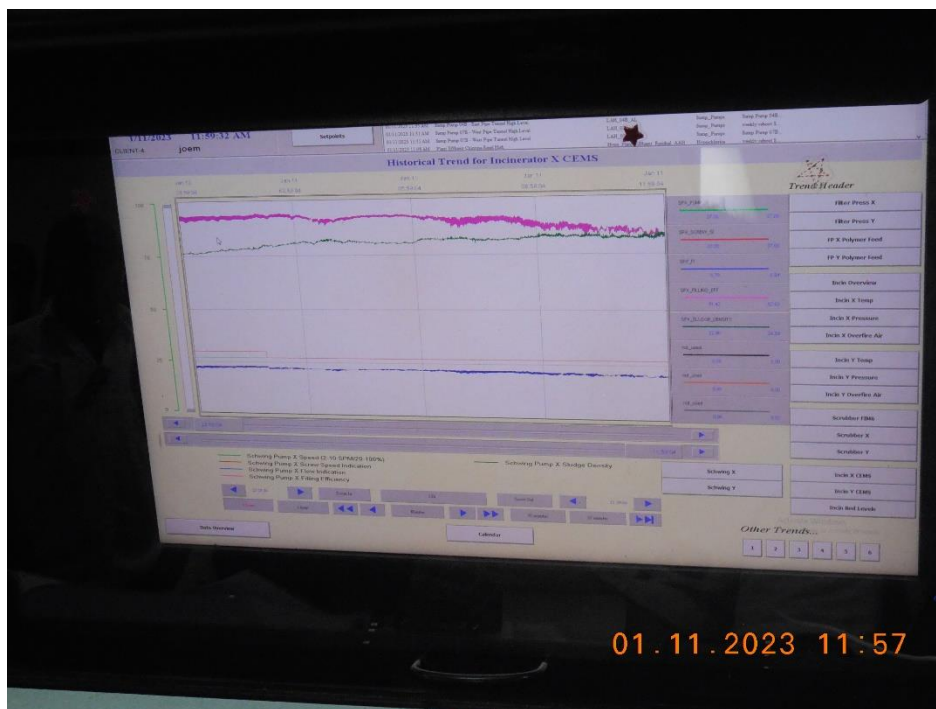


Photo 9328: SCADA screen of feed rate trends Jan. 11, 2023



Photo 9329: SCADA screen of total hydrocarbon and oxygen continuous monitoring readings Jan. 3 - 11, 2023

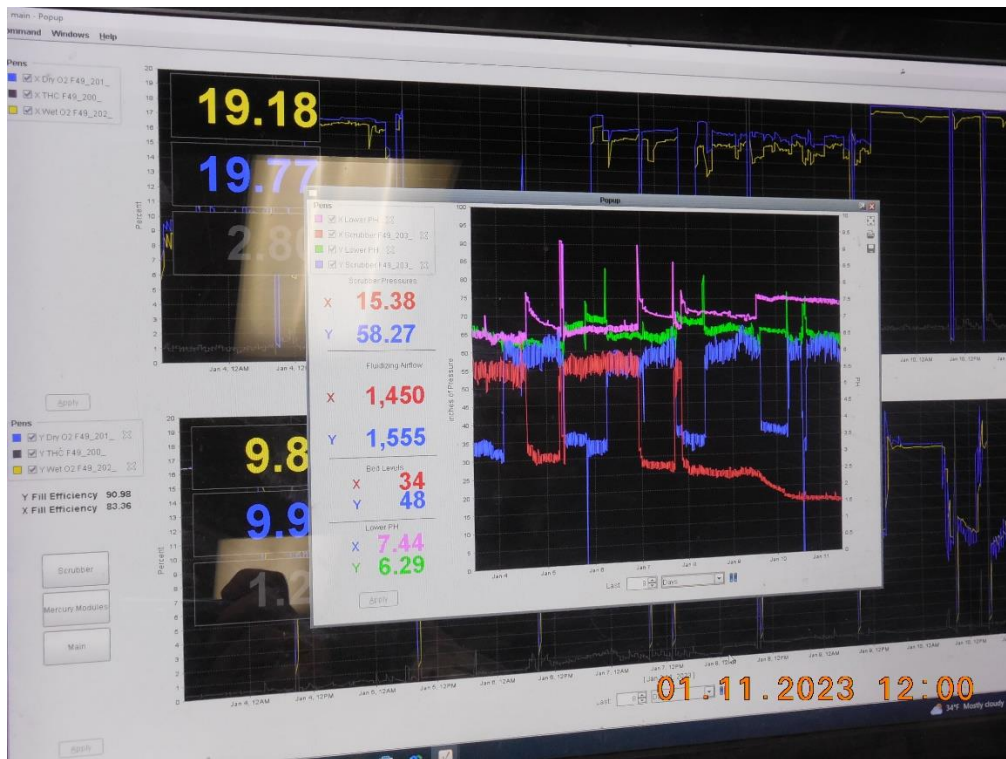


Photo 9330: SCADA screen of scrubber pH, pressure, and bed levels Jan. 11, 2023

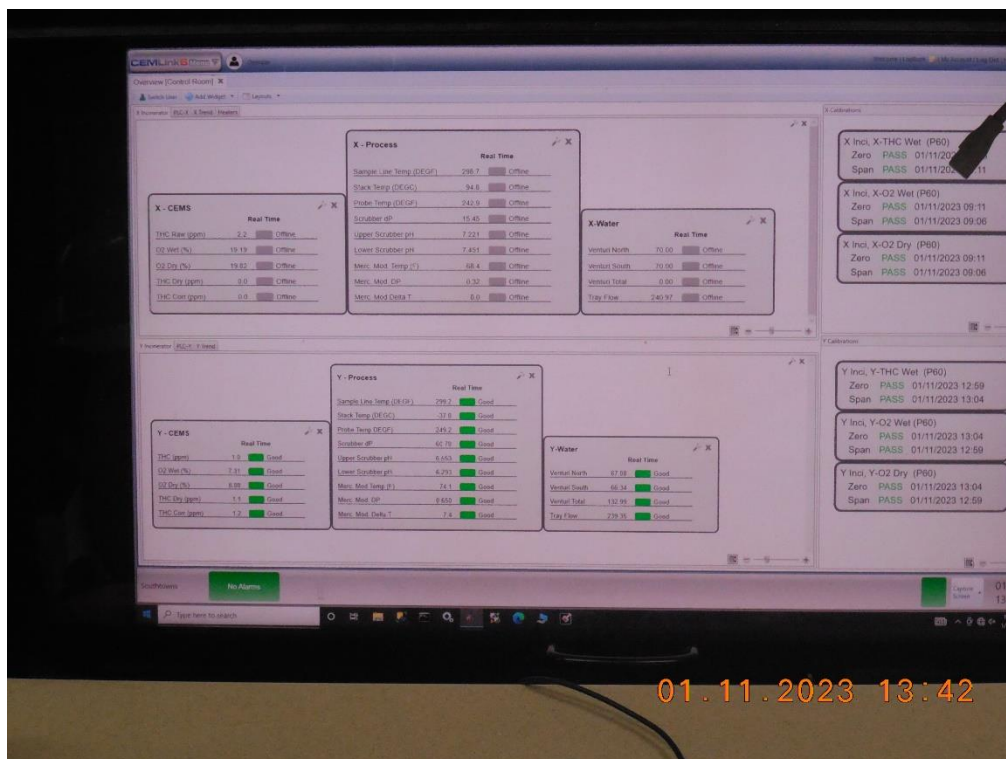
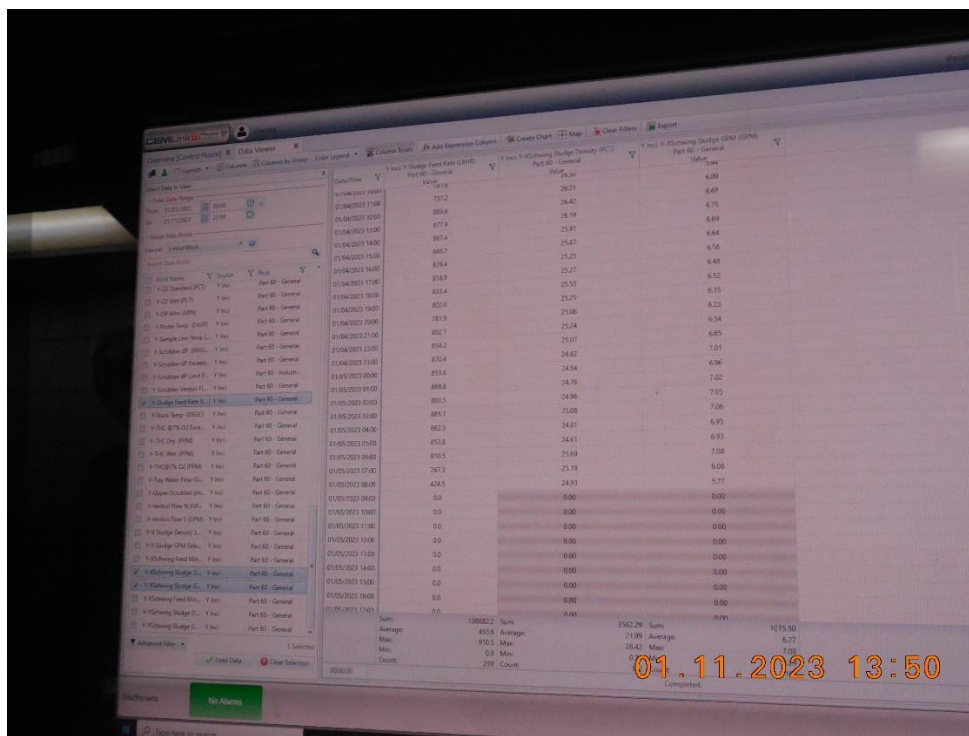
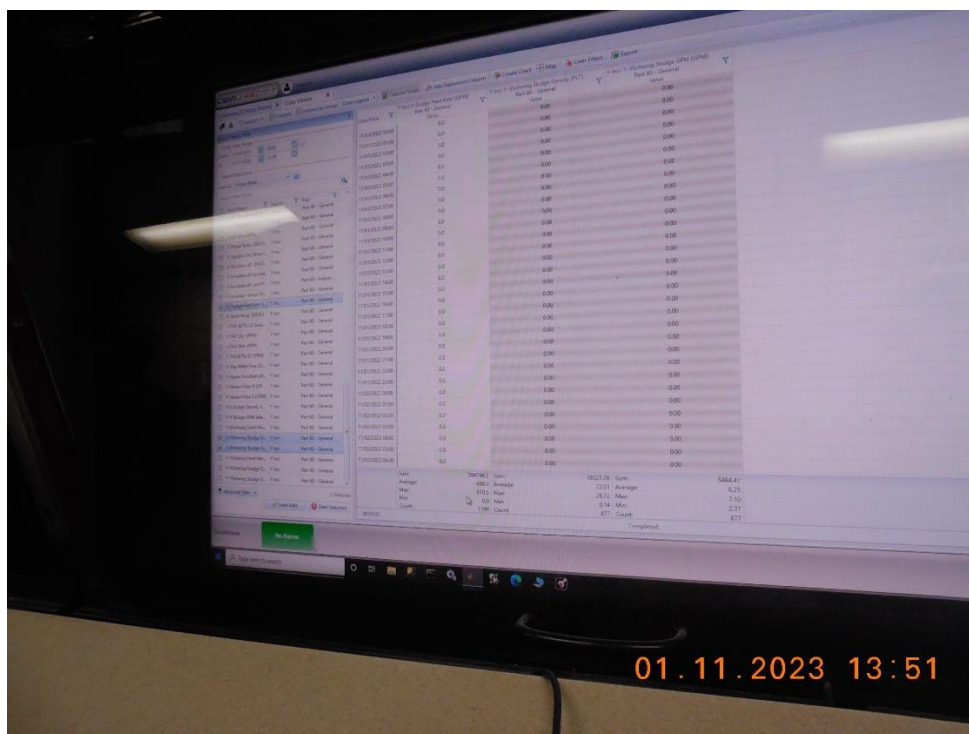


Photo 9331: SCADA Control room screen of oxygen and THC Jan. 11, 2023





**Photo 9332: SCADA screen of feed rate YINCI Jan. 4 and 5, 2023**



**Photo 9333: SCADA screen of feed rate YINCI Nov. 1, 2022**

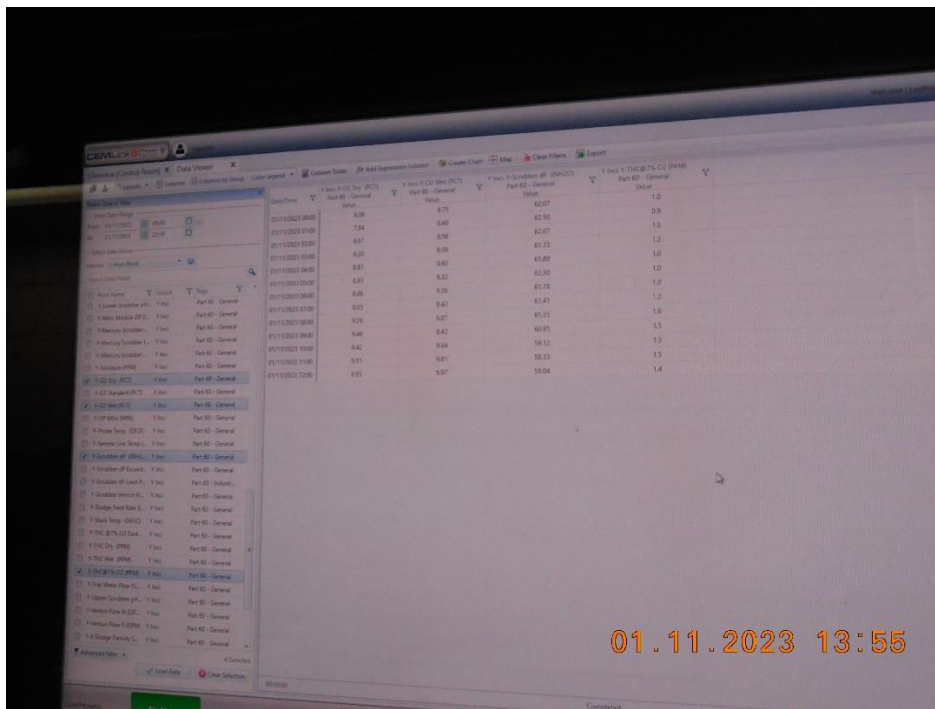


Photo 9334: SCADA screen of pressure drop, O2, and THC Jan. 11, 2023

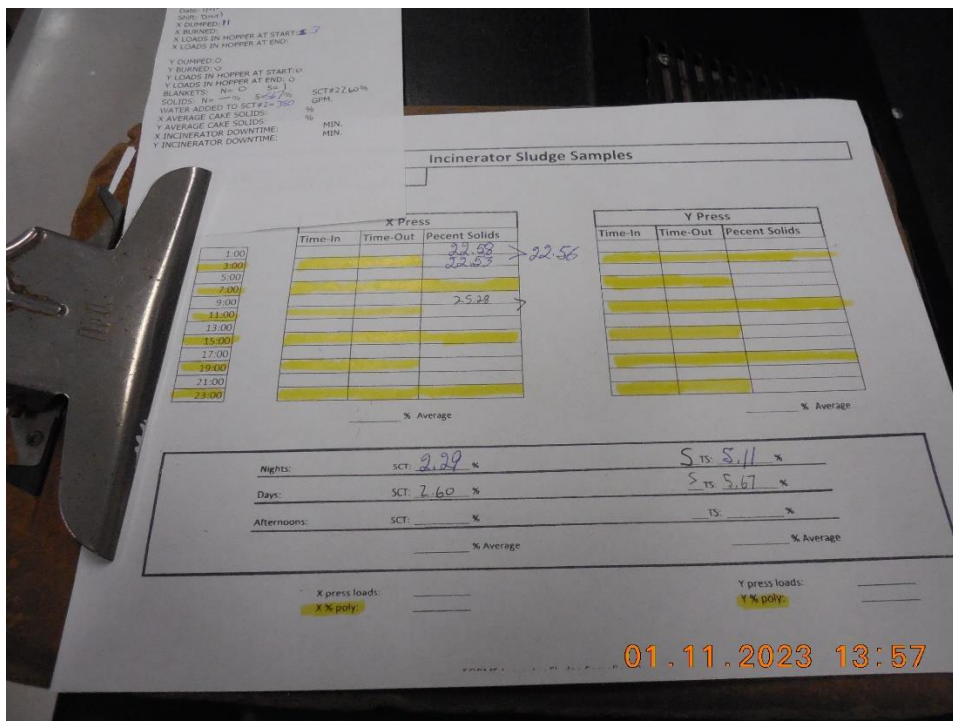


Photo 9335: Control room clipboard showing average percent solids of feed Jan. 11, 2023





Photo 9336: Top of XINCI



Photo 9337: Top of YINCI



Photo 9338: Sludge press X



Photo 9339: Sludge hopper X





Photo 9340: Front of YINCI



Photo 9341 Sludge hopper Y



**Photo 9342: Front of XINCI**



**Photo 9343: Venturi scrubber (center right)**





**Photo 9344:** Shell of impingement scrubber (center) and venturi scrubber (right)



**Photo 9345:** Ash tank



Photo 9346: Ash pump (side view from distance)



Photo 9347: Ash pump (front view)





Photo 9348: Thickener piping and tunnel



Photo 9349: Thickener pump



Photo 9350: Sludge thickening tank



Photo 9351: Panel outside Envirocare Hg control system





**Photo 9352:** Corrosion outside of Hg control system



**Photo 9353:** Stack exiting Hg control system to roof



**Photo 9354:** Duct from scrubber to Hg control system (with corrosion)



**Photo 9355:** Wash down lance for scrubber





Photo 9356: Air intakes



Photo 9357: Stack to roof



**Photo 9358: Warm air skid for Hg control system**



**Photo 9359: Duct from top of INC Y to heat exchange housing (bottom right)**





**Photo 9360:** Top of INC Y



**Photo 9361:** Ash storage bags in lagoon



**Photo 9362: Ash storage piles in lagoon**



**Photo 9363: Ash storage lagoon**





Photo 9364: Stacks on top of incinerator building



Photo 9365: Water treatment plant diagram

ERG Inspector's Name: Steve Rapp

X

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Lead Inspector

EPA Lead Inspector's Name: Joseph Cardile

X

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Lead Inspector

EPA Assisting Inspector's Name: Phillip Ritz

X

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Assisting Inspector



Supervisor's Name: Harish Patel

X

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Supervisor